

Appl. No. : 10/090,415
Filed : February 27, 2002

REMARKS

In the outstanding Office Action, the Examiner has rejected Claims 1-27. Claims 23 and 24 have been amended to correctly recite that the claims are dependent upon Claim 22. No new matter has been added. Thus, Claims 1-27 are presented for further examination. Reconsideration and allowance of all Claims 1-27 in light of the present remarks is respectfully requested.

Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 1-27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,621,412 to Sharpe in view of U.S. Patent No. 6,593,845 to Friedman, et al.

Regarding claims 1 and 25, the Examiner stated that “Sharpe teaches a transponder circuit (Figures 4-5 (14)) comprising an input signal section coupled to first comparator (see for example, Figures 4-6 (in Figure 5, the first block is incorrectly labeled 64 instead of 62), column 5, lines 10-15, and column 9, lines 44-52, the input signal section coupled to the first comparator (Figure 5, 68)), and coupling antenna to the first comparators (see for example, Figures 5, comparator 68 and circuit 72 are coupled to antenna 30 via detector module 70).” The Examiner recognized that “Sharpe, however, does not teach the second comparator.”

The Examiner further stated that “Friedman teaches input signal section coupled with the sampling comparator (see for example, Figure 2 (38), column 5, lines 11-14, the comparator 38 is coupled to the input section 32).” The Examiner also stated that “[i]t would have been obvious to one of ordinary skill in the art at the time [the] invention was made to combine Friedman’s active RF transponder ‘sample comparator’ (see example, column 2, lines 30-32, Figure 2 (38)) with Sharpe’s transponder with wake-up circuitry to provide a low power transponder to ‘be made responsive to signals in plural frequency ranges to be waked by interrogators operating at the different ranges’ (Friedman, column 17, lines 33-35), and to conserve transponder battery power (Friedman, see for example, column 2, lines 20-26).”

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, and the prior art references, when combined, must teach or suggest all the claim limitations. *M.P.E.P.* § 2143.

Appl. No. : 10/090,415
Filed : February 27, 2002

Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998).

The transponder circuit of Claim 1 comprises “an input signal section coupled to both a first and second comparator.”

Sharpe describes a multi-stage transponder circuit comprising an analog ASIC 32 coupled to an antenna 30. *See Sharpe, Figure 5*. The analog ASIC includes first stage circuitry 62 consisting of a low pass filter 72 coupled to a comparator 68. *Col. 9, lines 42-52*. An input signal is passed from the antenna through the low pass filter, and the output of the low pass filter is compared to a reference voltage at the comparator. *Id.* The output of the comparator 68 is coupled to a wake-up circuit 64 which activates a digital ASIC 34 upon detection of an RF modulation or frequency of interest. *Col. 9, lines 52-54; Col. 10, lines 8-14*. However, as recognized by the Examiner, Sharpe fails to describe or suggest the inclusion of a second comparator coupled to the input signal section of the circuit.

Friedman describes an RF transponder with a wake-up circuit configured to wake the transponder upon detection of an RF interrogating signal. *See Friedman, Figure 2*. The wake-up circuit includes an RF detect circuit 32 coupled to an antenna, and a low current source 34 configured to provide a reference current. *Col. 5, lines 3-6, lines 11-16*. A sampled comparator 38 is coupled to the RF detect circuit 32 and the low current source 34, and is configured to provide a high output value when the output of the RF detect circuit exceeds the threshold value provided by the reference current. *Col. 5, lines 26-31*. Friedman, however, also fails to describe or suggest a second comparator coupled to an input signal section of the RF transponder.

As best understood, the Examiner argued that it would have been obvious to combine the sampled comparator described by Friedman with the wake-up circuit described by Sharpe to arrive at the two comparator configuration recited in Claim 1. The Examiner provided two bases for the suggested combination. First, Friedman discusses that the wake up circuit may be made responsive to signals in plural frequency ranges to be waked by interrogators operating at the different ranges. Second, Friedman states that it would be desirable to provide a wake-up circuit that can be operated with very low current.

In regard to the Examiner’s first basis for combination, it is not clear why a second comparator would be used for response to plural frequency ranges where the sampled comparator

Appl. No. : 10/090,415
Filed : February 27, 2002

is simply used to detect a threshold current value and is not dependent upon a frequency of an input signal. Applicant respectfully submits that the discussion in Friedman regarding making the wake up circuitry responsive to signals in plurality frequency ranges does not suggest modifying Friedman's circuit to include the comparator taught by Sharpe.

In regard to the Examiner's second basis for combination, it would not have been obvious to incorporate an *additional* circuit component to Friedman's wake-up circuit in order to *reduce* the operating current for the wake-up circuit. Furthermore, determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the claimed invention. Accordingly, a transponder circuit comprising an input signal section coupled to both a first and second comparator would not have been obvious based on a first reference teaching a single comparator and a second reference teaching a single comparator

Thus, as there is no suggestion or motivation in either Friedman or Sharpe, or in the knowledge generally available to one of ordinary skill in the art, to modify one of the references or to combine reference teachings to arrive at the transponder circuit of Claim 1, Applicant respectfully submits that Claim 1 is in condition for allowance.

As Claims 11, 15, 22, and 25 recite limitations similar to those recited in Claim 1, the arguments with respect to Claim 1 similarly apply to Claims 11, 15, 22, and 25, and thus, Claims 11, 15, 22, and 25 are respectfully submitted for further review as patentable subject matter.

Because Claims 2-10, 16-21, 23, 24, 26, and 27 depend from Claims 1, 11, 22, and 25, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

Regarding Claims 2, 12, and 17 in particular, the Examiner stated that "Sharpe and Friedman teach claims 1, 11, 15, and further Sharpe teaches first comparator consumes less power (see for example, column 9, lines 49-67, the comparator 68 uses less power)."

Applicant respectfully submits that there is no teaching or suggestion in Sharpe that the comparator 68 consumes less power than a second comparator as Sharpe does not teach a second comparator. Furthermore, there is no teaching or suggestion in either Sharpe or Friedman that the comparator 68 of Sharpe consumes less power than the comparator 38 taught by Friedman.

Appl. No. : 10/090,415
Filed : February 27, 2002

Thus, even if the teachings of Sharpe and Friedman could be combined as suggested by the Examiner, the combination would not teach the features recited in each of Claims 2, 12, and 17.

Regarding claims 3, 13, and 24, the Examiner stated that “Sharpe and Friedman teach claims 1, 11, 22, 25 and further Friedman teaches second comparator operates at a higher speed (see for example, column 5, lines 25-40, the comparator 38 operates at a high speed).” Similar to Applicant’s arguments with regard to Claims 2, 12, and 17, as Friedman fails to teach a first comparator, the comparator 38 cannot “operate at a higher speed than said first comparator” because there is no first comparator. In addition, there is no teaching or suggestion in either Friedman or Sharpe that the comparator 38 taught by Friedman operates at a higher speed than the comparator 68 taught by Sharpe. Thus, even if Sharpe and Friedman could be combined as suggested by the Examiner, the suggested combination would not have all of the features as recited in each of Claims 3, 13, and 24

Regarding claims 4, 7, 8, and 16, the Examiner stated that “Sharpe and Friedman teach claims 1, 15, and further Sharpe teaches the second circuit enabled and operates only after a predefined signal received and validated at the first comparator” First, Applicant respectfully submits that since Sharpe fails to teach a second comparator the reference cannot teach that a “second comparator is only enabled when a predefined signal is detected at said first comparator” as recited in Claim 4. Similarly, Sharpe cannot teach operating a second comparator only after a predefined signal received at a first comparator has been validated, as recited in Claim 16.

Regarding Claim 5, the Examiner stated that “Sharpe and Friedman teach claim 1, and further Sharpe teaches reference voltage for said first comparator is adjustable during circuit operation” Similarly, regarding claim 6, the Examiner stated that “Sharpe and Friedman teach claim 1, and further Friedman teaches a reference voltage for said second comparator is adjustable during circuit operation” Applicant respectfully submits that neither Sharpe nor Friedman teach or suggest that the reference voltages for the comparators taught by Sharpe and Friedman are adjustable during circuit operation. Furthermore, the Examiner failed to point to any teaching or suggestion in the prior art of record of such a feature. The citations provided in the Office Action in support of the Examiner’s rejection of Claims 5 and 6 merely discuss the standard operation of a comparator wherein the *output* of the comparator changes during circuit operation when an input signal exceeds a threshold or reference voltage.

Appl. No. : 10/090,415
Filed : February 27, 2002

Regarding claim 21, the Examiner failed to point to any teaching or suggestion in the prior art of record of a method of operating a transponder circuit, comprising, *inter alia*, adjusting a reference voltage for a first comparator and a reference voltage for a second comparator in response to information from an input signal, as recited in Claim 21. Thus Applicant respectfully submits that Claim 21 is in condition for allowance.

Conclusion

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, arguments in support of the patentability of the pending claim set are presented above. In light of these remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: Oct. 15, 2004

By: Tiffany Miller
Tiffany Miller
Registration No. 52,032
Customer No. 20,905
(619) 235-8550

S:\DOCS\TCM\TCM-3674.DOC
091504